

the spleen may cause depression or inactivity of the bone marrow, just as disease of one of the glands of internal secretion may depress one of the others. The author then discusses the differential diagnosis of purpura hemorrhagica and aplastic anemia, pointing out that drug purpura Henoch's purpura and Schoenlein's disease are not true purpura hemorrhagica. Purpura hemorrhagica and aplastic anemia must not be confused with hemophilia, the non-leukemic phase of leukemia, bone marrow tumors, pernicious anemia and splenic anemia. The distinguishing characteristics of hemophilia are the normal platelet count, blood clot and bleeding time, with the greatly delayed coagulation time; of the non-leukemic phase of leukemia, the picture of active regeneration of the red cells and polynuclears, the presence of abnormal forms of lymphocytes, and swelling of the lymph nodes; of bone marrow tumors, the history, physical examination, roentgen-ray findings (Bruce Jones protein in the urine in myeloma) and presence of abnormal cells, plasma cells or tumor cells should they occur in the peripheral blood; of pernicious anemia after aplasia of the marrow has occurred, the history of remissions, sore tongue and spinal involvement, color of the skin, and a high color index of the red cells with the presence of occasional large and abnormally shaped red cells; of splenic anemia, rather marked enlargement of spleen and later of the liver, though this disease is often difficult to distinguish from purpura hemorrhagica. The author gives a short classification of the types of purpura hemorrhagica and aplastic anemia and suggests that, instead of calling a group of disease conditions "purpura hemorrhagica," we use more specific terms and referred to cases of "insufficiency of the marrow with especial involvement of the platelets or other formed elements in varying degrees."

## SURGERY

UNDER THE CHARGE OF

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**Treatment of Gunshot Wounds of the Abdomen, with a Summary of 500 Cases seen in an Advanced Casualty Clearing Station.**—LOCKWOOD, KENNEDY and MACFIE (*British Med. Jour.*, March 10, 1917, p. 317) say that the earlier the patient could be operated on the better were the results. As late as twenty hours after being wounded, operation was considered the best course, and their results justified them. Judgment in cases seen after twenty to thirty hours presented much greater difficulties; there was always the danger of increasing the damage by manipulation during the operation. If general plastic peritonitis had developed, interference was not only valueless but dangerous; they were content to insert a pelvic drain, or, if a fecal fistula was found, to mop it out carefully and drain.

A few cases were operated on after thirty hours, but usually to drain a fecal collection. Autopsy was performed in some 80 per cent. of the cases which ended fatally without operation having been attempted; hemorrhage was found as the commonest cause of death. Shock accounted for most of the deaths within the first twenty-four hours after operation. General peritonitis was rare in cases operated on not later than twelve hours after being wounded, but later than that it was present in about 50 per cent. of deaths. Gas gangrene, especially of the posterior abdominal wall, was the cause of death in at least 30 per cent. of the cases. After nephrectomy and splenectomy death from embolism and infarct occurred in a small percentage of cases. In about 8 per cent. of cases operated on wounds of other parts of the body caused death. Of the 500 cases 356 were operated on and 144 were not operated on. The following conclusions were drawn: wounds of the large vessels to the liver, kidney, and spleen are fatal before they can come to operation. Wounds involving the pancreas are seldom seen on the operating table, by reason, perhaps, of the contiguity of the organ to large vessels; only one case was seen. In that the foreign body was lodged in the tail of the pancreas. Anteroposterior wounds, especially in the epigastrium, are least dangerous, and wounds from side to side, especially low down, are dangerous. Wounds of solid viscera are not so dangerous as those of hollow viscera. Cases that come to operation with a herniated loop of bowel exposed do badly, especially if much bowel is lying exposed; the same is true when the stomach is partially herniated. Wounds of the stomach, colon and especially the small intestine, require exploration, but in a posterior wound involving the colon the greatest care should be taken not to convert a retroperitoneal condition into an intraperitoneal one. Wounds of the liver and kidney should be carefully determined as such only, and then treated expectantly, doing no more than exploring and cleaning up the track, and not that if probably a through and through wound produced by an undistorted rifle bullet or shrapnell ball. Avoid resection. End-to-end anastomosis is preferable to lateral when resection is essential. Wounds of the diaphragm are not necessarily fatal, nor even to be greatly feared. Careful repair gives excellent results. Multiple drainage tubes are rarely necessary, and always to be avoided if possible. Abdominal lavage is a dangerous practice. Never leave free, unprotected gauze in the abdomen. Paul's tube should be relegated to the museum, except in very rare cases. Speed in operating is essential, not only for the benefit of the patient, but because of the demands of scores of less vitally wounded men requiring attention during an active offensive. Resection for fecal fistula is better done late when the patient is in England.

**Direct Transfusion of Blood, with a Description of a Simple Method.**—FULLERTON and DREYER (*Lancet*, May 12, 1917, p. 715) say that treatment by direct transfusion of blood has attracted much attention of late during the course of the war, since benefit has been derived from it in many cases of hemorrhage and in certain cases of anemia secondary to sepsis. Lives have been saved when all other methods of resuscitation have failed. In many cases the effect has been immediate and dramatic. They have seen patients who were blanched and shocked and with pulse hardly perceptible brought back to life in a most astonishing way.